Exercise **1** *Let $f(x) = x^3$.*

(a) *Compute $AV_{[2,2+h]}$. Your answer will involve the variable h.*

$AV_{[2,2+h]} = \boxed{12 + 6h + h^2}$.

(b) *Compute $AV_{[x,x+2]}$. Your answer will involve the variable x.*

$AV_{[x,x+2]} = \boxed{3x^2 + 6x + 4}$.

(c) *Compute $AV_{[x,x+h]}$. Your answer will involve the variables x and h.*

$AV_{[x,x+h]} = \boxed{3x^2 + 3xh + h^2}$.

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